NATIONAL GUIDELINE CLEARINGHOUSE™ (NGC) GUIDELINE SYNTHESIS

ASSESSMENT AND MANAGEMENT OF URINARY INCONTINENCE IN WOMEN

GUIDELINES BEING COMPARED

1. **Hartford Institute for Geriatric Nursing (HIGN)**. Urinary incontinence (UI) in older adults admitted to acute care. In: Evidence-based geriatric nursing protocols for best practice. 3rd ed. New York (NY): Springer Publishing Company; 2008. p. 309-36. [45 references]
2. **National Collaborating Centre for Women's and Children's Health/National Institute for Health and Clinical Excellence (NCCWCH/NICE)**. Urinary incontinence: the management of urinary incontinence in women. London (UK): Royal College of Obstetricians and Gynaecologists (RCOG); 2006 Oct. 221 p. [960 references]
3. **Society of Obstetricians and Gynaecologists of Canada (SOGC)**. Conservative management of urinary incontinence. J Obstet Gynaecol Can 2006 Dec;28(12):1113-8. [36 references] PubMed

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AREAS OF AGREEMENT AND DIFFERENCE

A direct comparison of the recommendations presented in the above guidelines for the assessment and management of urinary incontinence in women is provided below.

Areas of Agreement

Assessment

The two groups to address assessment, HIGN and NCCWCH/NICE, generally recommend similar components for the assessment of UI: medical and UI history; physical examination; ruling out transient or underlying causes of UI (such as UTI); and categorizing the type of incontinence. NCCWCH/NICE recommends the initial assessment of all patients include urinalysis and completion of a voiding diary, and provides recommendations for subsequent management according to the urinalysis results. They also recommend estimation of PVR be performed, preferably by bladder scan, in women with symptoms of voiding dysfunction or a history of repeated UTIs. Additionally, NCCWCH/NICE recommends a digital assessment of pelvic floor muscle contraction be performed, and that incontinence-specific quality-of-life scales be used when therapies are being considered. HIGN recommends the presence/absence of an indwelling urinary catheter be documented.

Non-Pharmacologic Therapies

All of the groups agree that PFMT is the first-line recommended treatment for women with stress UI; NCCWCH/NICE states that it can also be recommended for mixed UI. NCCWCH/NICE specifies that the initial trial of PFMT should be supervised, last at least three months, and comprise at least eight contractions performed three times per day. NCCWCH/NICE and SOGC agree that electrical stimulation can be considered as an adjunct to PFMT in women who have difficulty contracting the pelvic muscles. NCCWCH/NICE notes, however, that it should not be routinely used in combination with PFMT.

With regard to urge UI, there is overall agreement that bladder training/drill should be the first-line therapy. NCCWCH/NICE states that it can also be recommended for mixed UI. HIGN states that PFMT can be used in conjunction with bladder training for urge UI. SOGC similarly notes that Kegel exercises may be offered as an adjunct to other treatments for OAB syndrome, but they should not be the only treatment offered for these symptoms.

HIGN and NCCWCH/NICE agree that weight loss should be encouraged as an effective lifestyle intervention in overweight/obese women. HIGN specifies women with a BMI > 27; NCCWCH/NICE specifies women with a BMI > 30.

Areas of Difference

Non-Pharmacologic Therapies

Recommendations regarding use of electrical stimulation for OAB differ. While SOGC recommends that electrical stimulation be offered as an effective option for the management of OAB, NCCWCH/NICE states that electrical stimulation should not routinely be used in the treatment of women with OAB.

Recommendations regarding other interventions differ as well. While SOGC guideline recommends intravaginal continence pessaries for the treatment of stress UI, NCCWCH/NICE states that intravaginal and intraurethral devices are not recommended for the routine management of UI in women. They state that

women should not be advised to consider such devices other than for occasional use when necessary to prevent leakage, for example during physical exercise.

NCCWCH/NICE also provides recommendations for bladder catheterization (intermittent or indwelling urethral or suprapubic), which they recommend be considered for women in whom persistent urinary retention is causing incontinence, symptomatic infections, or renal dysfunction, and in whom this cannot otherwise be corrected.

Pharmacologic Interventions

NCCWCH/NICE is the only group to address pharmacotherapy. They recommend immediate release non-proprietary oxybutynin for OAB or mixed UI as first-line drug treatment if bladder training has been ineffective. If immediate release oxybutynin is not well tolerated, they recommend darifenacin, solifenacin, tolterodine, trospium, or an extended release or transdermal formulation of oxybutynin be considered as alternatives. With regard to duloxetine, NCCWCH/NICE notes it may be offered as second-line therapy for stress UI if women prefer pharmacological to surgical treatment or are not suitable for surgical treatment. NCCWCH/NICE also states that desmopressin may be considered specifically to reduce nocturia in women with UI or OAB who find it a troublesome symptom.

Surgical Interventions

Only NCCWCH/NICE addresses surgical management. With regard to procedures for OAB, they recommend sacral nerve stimulation for the treatment of UI due to DO in women who have not responded to conservative treatments. They also address augmentation cystoplasty and bladder wall injection with botulinum toxin A for the management of idiopathic DO, both of which they recommend be restricted to women who have not responded to conservative treatments and who are willing and able to self-catheterize. They also state that urinary diversion should be considered for a woman with OAB only when conservative treatments have failed, and if sacral nerve stimulation and augmentation cystoplasty are not appropriate or are unacceptable to her.

NCCWCH/NICE also discusses procedures for stress UI, recommending retropubic mid-urethral tape procedures using a 'bottom-up' approach with macroporous polypropylene meshes as options if conservative management has failed. Open colposuspension and autologous rectus fascial sling are the recommended alternatives when clinically appropriate. They also cite synthetic slings using a retropubic 'top-down' or a transobturator foramen approach as alternative options if conservative management has failed, provided that women are made aware of the lack of long-term outcome data. Other interventions for the management of stress UI addressed include intramural bulking agents, which they recommend be considered only if conservative management has failed, and use of an artificial urinary sphincter, which they recommend be considered only if previous surgery has failed.

COMPARISON OF RECOMMENDATIONS

ASSESSMENT Abbreviations Back to TOC	

HIGN (2008)	**Parameters of Assessment**
	
	• Document the presence/absence of UI for all patients on admission (International Consultation on Incontinence [ICI], 2000 **[Level VI]**).
	• Document the presence/absence of an indwelling urinary catheter.
	  • Determine appropriate indwelling catheter use: severely ill patients, patient with Stage III to IV pressure ulcers of the trunk, urinary retention unresolved by other interventions (Wound Ostomy Continence Nurse's Society, 1996 **[Level VI]**).
	• For patients with presence of UI:
	
	The nurse collaborates with interdisciplinary team members to:
	
	  • Determine whether the problem is transient, established (stress/urge/mixed/overflow/functional), or both and document (Fantl et al., 1996 **[Level I]**; ICI, 2000 **[Level VI]**); Johnson et al., 2001 **[Level VI]**).
	  • Identify and document the possible etiologies of the UI (Fantl et al., 1996 **[Level I]**; ICI, 2000 **[Level VI]**).

NCCWCH/NICE (2006)	**Assessment and Investigation** **History-taking and Physical Examination** • At the initial clinical assessment, the woman's UI should be categorised as stress UI, mixed UI, or urge UI/OAB. Initial treatment should be started on this basis. In mixed UI, treatment should be directed towards the predominant symptom. • The clinical assessment should seek to identify relevant predisposing and precipitating factors and other diagnoses that may require referral for additional investigation and treatment. **Assessment of Pelvic Floor Muscles** • Routine digital assessment of pelvic floor muscle

contraction should be undertaken before the use of supervised PFMT for the treatment of UI.

Assessment of Prolapse

- Women with UI who have symptomatic prolapse that is visible at or below the vaginal introitus should be referred to a specialist.

Urine Testing

- A urine dipstick test should be undertaken in all women presenting with UI to detect the presence of blood, glucose, protein, leucocytes and nitrites in the urine.
- Women with symptoms of UTI whose urine tests positive for both leucocytes and nitrites should have a midstream urine specimen sent for culture and analysis of antibiotic sensitivities. An appropriate course of antibiotic treatment should be prescribed pending culture results.
- Women with symptoms of UTI whose urine tests negative for either leucocytes or nitrites should have a midstream urine specimen sent for culture and analysis of antibiotic sensitivities. The healthcare professional should consider the prescription of antibiotics pending culture results.
- Women who do not have symptoms of UTI, but whose urine tests positive for both leucocytes and nitrites, should not be offered antibiotics without the results of midstream urine culture.
- Women who do not have symptoms of UTI and whose urine tests negative for either leucocytes or nitrites are unlikely to have UTI and should not have a urine sample sent for culture.

Assessment of Residual Urine

- The measurement of post-void residual volume by bladder scan or catheterisation should be performed in women with symptoms suggestive of voiding dysfunction or recurrent UTI. A bladder scan should be used in preference to catheterisation on the grounds of acceptability and lower incidence of adverse events.
- Women who are found to have a palpable bladder on bimanual or abdominal examination after voiding should be referred to a specialist.

Symptom Scoring and Quality-of-Life Assessment

- The following incontinence-specific quality-of-life scales

are recommended when therapies are being evaluated: ICIQ, BFLUTS, I-QOL, SUIQQ, UISS, SEAPI-QMM, ISI, and KHQ.2

Bladder Diaries

- Bladder diaries should be used in the initial assessment of women with UI or OAB. Women should be encouraged to complete a minimum of 3 days of the diary covering variations in their usual activities, such as both working and leisure days.

Pad Testing

- Pad tests are not recommended in the routine assessment of women with UI.

Urodynamic Testing

- The use of multi-channel cystometry, ambulatory urodynamics or videourodynamics is not recommended before starting conservative treatment.
- For the small group of women with a clearly defined clinical diagnosis of pure stress UI, the use of multi-channel cystometry is not routinely recommended.
- Multi-channel filling and voiding cystometry is recommended in women before surgery for UI if:
    - There is clinical suspicion of detrusor overactivity.
    - There has been previous surgery for stress incontinence or anterior compartment prolapse.
    - There are symptoms suggestive of voiding dysfunction.

  Ambulatory urodynamics or videourodynamics may also be considered in these circumstances.

Other Tests of Urethral Competence

- The Q-tip, Bonney, Marshall, and Fluid-Bridge tests are not recommended in the assessment of women with UI.

Cystoscopy

- Cystoscopy is not recommended in the initial assessment of women with UI alone.

Imaging

- Imaging (magnetic resonance imaging, computed

	tomography, X-ray) is not recommended for the routine assessment of women with UI. Ultrasound is not recommended other than for the assessment of residual urine volume.
SOGC (2006)	No recommendations offered.
MANAGEMENT **Abbreviations** **Back to TOC**	
Non-Pharmacologic Interventions	
HIGN (2008)	**Nursing Care Strategies** **General Principles That Apply to Prevention and Management of All Forms of UI** • Identify and treat causes of transient UI (ICI, 2000 **[Level VI]**). • Identify and continue successful pre-hospital management strategies for established UI. • Develop an individualized plan of care using data obtained from the history and physical examination, and in collaboration with other team members. • Avoid medications that may contribute to UI (Kane, Ouslander, & Abrass, 2004 **[Level VI]**). • Avoid indwelling urinary catheters whenever possible to avoid risk for UTI (Dowd & Campbell, 1995 **[Level IV]**; Bouza et al., 2001 **[Level IV]**; Madigan & Neff, 2003 **[Level I]**; Zimakoff et al., 1996 **[Level IV]**; Wong, 1981 **[Level VI]**). • Monitor fluid intake and maintain an appropriate hydration schedule. • Limit dietary bladder irritants (Gray & Haas, 2000 **[Level VI]**). • Consider adding weight loss as a long-term goal in discharge planning for those with a BMI greater than 27 (Subak et al., 2005 **[Level II]**). • Modify the environment to facilitate continence (Fantl et al., 1996 **[Level I]**; Jirovec, 2000 **[Level VI]**; Palmer, 1996 **[Level VI]**). • Provide patients with usual undergarments in expectation of continence, if possible. • Prevent skin breakdown by providing immediate cleansing after an incontinent episode and utilizing barrier ointments (Ersser et al., 2005 **[Level I]**). • Pilot test absorbent products to best meet patient,

staff, and institutional preferences (Dunn et al., 2002 **[Level I]**), bearing in mind that diapers have been associated with UTIs (Zimakoff et al., 1996 **[Level IV]**).

Strategies for Specific Problems

Stress UI

- Teach PFMEs (Bo, Talseth, & Holme, 1999 **[Level II]**; Hay-Smith & Dumoulin, 2006 **[Level I]**; ICI, 2000 **[Level VI]**).
- Provide toileting assistance and bladder training as needed (ICI, 2000 **[Level VI]**).
- Consider referral to other team members if pharmacologic or surgical therapies are warranted.

Urge UI

- Implement bladder training (retraining) (ICI, 2000 **[Level VI]**; Teunissen et al., 2004 **[Level I]**).
- If patient is cognitively intact and is motivated, provide information on urge inhibition (Gray, 2005 **[Level VI]**; Smith, 2000 **[Level VI]**).
- Teach PFMEs to be used in conjunction bladder training or retraining (Flynn, Cell, & Luisi, 1994 **[Level IV]**).
- Collaborate with prescribing team members if pharmacologic therapy is warranted.
- Initiate referrals for those patients who do not respond to the above.

Overflow UI

- Allow sufficient time for voiding.
- Discuss with interdisciplinary team the need for determining a post-void residual (PVR) (ICI, 2000 **[Level VI]**; Shinoplous, 2000 **[Level VI]**; Weiss, 1998 **[Level VI]**) (see Figure 13.1 in the original guideline document).
- Instruct patients in double voiding and Crede's maneuver (Doughty, 2000 **[Level VI]**).
- Sterile intermittent is preferred over indwelling catheterization as needed (Saint et al., 2006 **[Level II]**; Terpenning, Allada, & Kauffaman, 1989 **[Level IV]**; Warren, 1997 **[Level VI]**).
- Initiate referrals to other team members for those patients requiring pharmacologic or surgical intervention.

	Functional UI • Provide individualized, scheduled toileting or prompted voiding (Eustice, Roe, & Paterson, 2005 **[Level I]**; Jirovec, 2000 **[Level VI]**; Ostaszkiewicz, Johnston, & Roe, 2005 **[Level I]**). • Provide adequate fluid intake. • Refer for physical and occupational therapy as needed. • Modify environment to be conducive to maintaining independence with continence (Fantl et al., 1996 **[Level I]**; Jirovec, 2000 **[Level VI]**; Jirovec, Brink, & Wells, 1988 **[Level VI]**); Palmer, 1996 **[Level VI]**).
NCCWCH/NICE (2006)	**<u>Conservative Management</u>** **Lifestyle Interventions** • A trial of caffeine reduction is recommended for the treatment of women with OAB. • Consider advising modification of high or low fluid intake in women with UI or OAB. • Women with UI or OAB who have a BMI greater than 30 should be advised to lose weight. **Physical Therapies** • A trial of supervised PFMT of at least 3 months' duration should be offered as first-line treatment to women with stress or mixed UI. • PFMT programmes should comprise at least eight contractions performed three times per day. • If PFMT is beneficial, an exercise programme should be continued. • Perineometry or pelvic floor electromyography as biofeedback should not be used as a routine part of PFMT. • Electrical stimulation should not routinely be used in the treatment of women with OAB. • Electrical stimulation should not routinely be used in combination with PFMT. • Electrical stimulation and/or biofeedback should be considered in women who cannot actively contract pelvic floor muscles in order to aid motivation and adherence to therapy. **Behavioural Therapies** • Bladder training lasting for a minimum of 6 weeks should be offered as first-line treatment to women with

urge or mixed UI.

- If women do not achieve satisfactory benefit from bladder training programmes, the combination of an antimuscarinic agent with bladder training should be considered if frequency is a troublesome symptom.
- In women with UI who also have cognitive impairment, prompted and timed voiding toileting programmes are recommended as strategies for reducing leakage episodes.

Non-therapeutic Interventions

- Absorbent products, hand held urinals and toileting aids should not be considered as a treatment for UI. They should be used only as:
    - A coping strategy pending definitive treatment
    - An adjunct to ongoing therapy
    - Long-term management of UI only after treatment options have been explored
- Bladder catheterisation (intermittent or indwelling urethral or suprapubic) should be considered for women in whom persistent urinary retention is causing incontinence, symptomatic infections, or renal dysfunction, and in whom this cannot otherwise be corrected. Healthcare professionals should be aware, and explain to women, that the use of indwelling catheters in urge UI may not result in continence.
- Intermittent urethral catheterisation should be used for women with urinary retention who can be taught to self-catheterise or who have a carer who can perform the technique.
- Careful consideration should be given to the impact of long-term indwelling urethral catheterisation. The practicalities, benefits and risks should be discussed with the patient or, if appropriate, her carer. Indications for the use of long-term indwelling urethral catheters for women with UI include:
    - Chronic urinary retention in women who are unable to manage intermittent self-catheterisation
    - Skin wounds, pressure ulcers or irritations that are being contaminated by urine
    - Distress or disruption caused by bed and clothing changes
    - Where a woman expresses a preference for this form of management
- Indwelling suprapubic catheters should be considered as an alternative to long-term urethral catheters. Healthcare professionals should be aware, and explain to women, that they may be associated with lower rates of symptomatic UTI, 'by-passing' and urethral

	complications than indwelling urethral catheters. • Intravaginal and intraurethral devices are not recommended for the routine management of UI in women. Women should not be advised to consider such devices other than for occasional use when necessary to prevent leakage, for example during physical exercise. **Complementary Therapies** • Complementary therapies are not recommended for the treatment of UI or OAB. **Preventive Use of Conservative Therapies** • PFMT should be offered to women in their first pregnancy as a preventive strategy for UI.
SOGC (2006)	**Pelvic Floor Retraining** 1. Pelvic floor retraining (Kegel) exercises should be recommended for women presenting with stress incontinence. **(I-A)** 2. Proper performance of Kegel exercises should be confirmed by digital vaginal examination or biofeedback. **(I-A)** 3. Follow-up should be arranged for women using pelvic floor retraining, since cure rates are low and other treatments may be indicated. **(III-C)** 4. Kegel exercises may be offered as an adjunct to other treatments for overactive bladder (OAB) syndrome, but they should not be the only treatment offered for these symptoms. **(I-B)** **Functional Electrical Stimulation (FES)** 5. Although FES has not been studied as an independent modality, it may be used as an adjunct to pelvic floor retraining, especially in patients who have difficulty identifying and contracting the pelvic muscles. **(III-C)** 6. FES should be offered as an effective option for the management of OAB. **(I-A)** **Vaginal Cones** 7. Vaginal cones may be recommended as a form of pelvic floor retraining for women with stress incontinence. **(I-A)**

	Mechanical Devices for Urinary Incontinence 8. Continence pessaries should be offered to women as an effective, low-risk treatment for both stress and mixed incontinence. **(II-B)** **Bladder Training** 9. Bladder training (bladder drill) should be recommended for symptoms of OAB, since it has no adverse effects **(III-C)**, and it is as effective as pharmacotherapy. **(I-B)** 10. Behavioral management protocols using lifestyle changes in combination with bladder training and pelvic muscle exercises are highly effective and should be used to treat urinary incontinence. **(I-A)** **Conclusion** The practice of the conservative management of urinary incontinence is widespread and should be encouraged. All modalities appear to be more effective than no therapy. Unlike surgical treatment of urinary incontinence, which carries a significant risk of complications and poor long-term outcomes, conservative management is associated with minimal adverse outcomes. For a significant number of patients, the results of conservative management are satisfactory and may obviate the need for medical or surgical interventions.
Pharmacologic Interventions	
HIGN (2008)	No specific recommendations offered.
NCCWCH/NICE (2006)	**Drug Therapies** • Immediate release non-proprietary oxybutynin should be offered to women with OAB or mixed UI as first-line drug treatment if bladder training has been ineffective. If immediate release oxybutynin is not well tolerated, darifenacin, solifenacin, tolterodine, trospium, or an extended release or transdermal formulation of oxybutynin should be considered as alternatives. Women should be counselled about the adverse effects of antimuscarinic drugs. • An early treatment review should be undertaken following any change in antimuscarinic drug therapy. • Propiverine should be considered as an option to treat frequency of urination in women with OAB, but is not

	recommended for the treatment of UI. • Flavoxate, propantheline and imipramine should not be used for the treatment of UI or OAB in women. • The use of desmopressin may be considered specifically to reduce nocturia in women with UI or OAB who find it a troublesome symptom. However, the use of desmopressin for nocturia in women with idiopathic UI is outside the UK marketing authorisation for the product. Informed consent to treatment should be obtained and documented. • Duloxetine is not recommended as a first-line treatment for women with predominant stress UI. Duloxetine should not routinely be used as a second-line treatment for women with stress UI, although it may be offered as second-line therapy if women prefer pharmacological to surgical treatment or are not suitable for surgical treatment. If duloxetine is prescribed, women should be counselled about its adverse effects. • Systemic hormone replacement therapy is not recommended for the treatment of UI. • Intravaginal oestrogens are recommended for the treatment of OAB symptoms in postmenopausal women with vaginal atrophy.
SOGC (2006)	No recommendations offered.
Surgical Interventions	
HIGN (2008)	No recommendations offered.
NCCWCH/NICE (2006)	**<u>Surgical Management</u>** **Discussion of Benefits and Risks** • Any woman wishing to consider surgical treatment for UI should be informed about the benefits and risks of surgical and non-surgical options. Counselling should include consideration of the woman's child-bearing wishes. **Procedures for OAB** • Sacral nerve stimulation is recommended for the treatment of UI due to DO in women who have not responded to conservative treatments. Women should be offered sacral nerve stimulation on the basis of their

response to preliminary percutaneous nerve evaluation. Life-long follow-up is recommended.

- Augmentation cystoplasty for the management of idiopathic DO should be restricted to women who have not responded to conservative treatments and who are willing and able to self-catheterise. Preoperative counselling should include common and serious complications: bowel disturbance, metabolic acidosis, mucus production and/or retention in the bladder, UTI and urinary retention. The small risk of malignancy occurring in the augmented bladder should also be discussed. Life-long follow-up is recommended.
- Urinary diversion should be considered for a woman with OAB only when conservative treatments have failed, and if sacral nerve stimulation and augmentation cystoplasty are not appropriate or are unacceptable to her. Life-long follow-up is recommended.
- Bladder wall injection with botulinum toxin A should be used in the treatment of idiopathic DO only in women who have not responded to conservative treatments, and who are willing and able to self-catheterise. Women should be informed about the lack of long-term data. There should be special arrangements for audit or research. The use of botulinum toxin A for this indication is outside the UK marketing authorisation for the product. Informed consent to treatment should be obtained and documented.
- Botulinum toxin B is not recommended for the treatment of women with idiopathic OAB.

Procedures for Stress UI

- Retropubic mid-urethral tape procedures using a 'bottom-up' approach with macroporous (type 1) polypropylene meshes are recommended as treatment options for stress UI if conservative management has failed. Open colposuspension and autologous rectus fascial sling are the recommended alternatives when clinically appropriate.
- Synthetic slings using a retropubic 'top-down' or a transobturator foramen approach are recommended as alternative treatment options for stress UI if conservative management has failed, provided that women are made aware of the lack of long-term outcome data.
- Synthetic slings using materials other than polypropylene that are not of a macroporous (type 1) construction are not recommended for the treatment of stress UI.
- Intramural bulking agents (glutaraldehyde cross-linked collagen, silicone, carbon-coated zirconium beads, or

	hyaluronic acid/dextran co-polymer) should be considered for the management of stress UI if conservative management has failed. Women should be made aware that: • Repeat injections may be required to achieve efficacy • Efficacy diminishes with time • Efficacy is inferior to that of retropubic suspension or sling • In view of the associated morbidity, the use of an artificial urinary sphincter should be considered for the management of stress UI in women only if previous surgery has failed. Life-long follow-up is recommended. • Laparoscopic colposuspension is not recommended as a routine procedure for the treatment of stress UI in women. The procedure should be performed only by an experienced laparoscopic surgeon working in a multidisciplinary team with expertise in the assessment and treatment of UI. • Anterior colporrhaphy, needle suspensions, paravaginal defect repair and the Marshall-Marchetti-Krantz procedure are not recommended for the treatment of stress UI. • Autologous fat and polytetrafluoroethylene used as intramural bulking agents are not recommended for the treatment of stress UI. **NGC Note**: Refer to the original guideline document for recommendations on "Competence of surgeons performing operative procedures for UI in women."
SOGC (2006)	No recommendations offered.
Referral	
HIGN (2008)	**Stress UI** Consider referral to other team members if pharmacologic or surgical therapies are warranted. **Urge UI** Collaborate with prescribing team members if pharmacologic therapy is warranted. **Overflow UI** Initiate referrals to other team members for those patients requiring pharmacologic or surgical intervention.

	Functional UI Refer for physical and occupational therapy as needed.

NCCWCH/NICE (2006)	**Referral**
	
	• Women with UI who have any of the following should receive an urgent referral*:
	  • Microscopic haematuria if aged 50 years and older
	  • Visible haematuria
	  • Recurrent or persisting UTI associated with haematuria if aged 40 years and older
	  • Suspected malignant mass arising from the urinary tract
	• In women with UI, further indications for consideration for referral to a specialist service include:
	  • Persisting bladder or urethral pain
	  • Clinically benign pelvic masses
	  • Associated faecal incontinence
	  • Suspected neurological disease
	  • Symptoms of voiding difficulty
	  • Suspected urogenital fistulae
	  • Previous continence surgery
	  • Previous pelvic cancer surgery
	  • Previous pelvic radiation therapy
	
	*NICE's 'Referral guidelines for suspected cancer' (http://www.nice.org.uk/CG027) define urgent referral as the patient being seen within the national target for urgent referrals (currently 2 weeks).

SOGC (2006)	No recommendations offered.

STRENGTH OF EVIDENCE AND RECOMMENDATION GRADING SCHEMES **Abbreviations** **Back to TOC**	
HIGN (2008)	**Levels of Evidence** **Level I**: Systematic reviews (integrative/meta-analyses/clinical practice guidelines based on systematic reviews) **Level II**: Single experimental study (randomized controlled

trials [RCTs])

Level III: Quasi-experimental studies

Level IV: Non-experimental studies

Level V: Care report/program evaluation/narrative literature reviews

Level VI: Opinions of respected authorities/Consensus panels

NCCWCH/NICE (2006)

Levels of Evidence for Intervention Studies

Level	Source of Evidence
1++	Well-conducted meta-analyses, systematic reviews of RCTs or RCTs with a low risk of bias
1+	Meta-analyses, systematic reviews of RCTs or RCTs with a high risk of bias
1-	High-quality systematic reviews of case-control or cohort studies; high-quality case-control or cohort studies with a very low risk of confounding, bias or chance and a high probability that the relationship is causal
2++	High-quality meta-analyses, systematic reviews of randomized controlled trials (RCTs) or RCTs with a very low risk of bias
2+	Well-conducted case-control or cohort studies with a low risk of confounding, bias or chance and a moderate probability that the relationship is causal
2-	Case-control or cohort studies with a high risk of confounding, bias or chance and a significant risk that the relationship is not causal
3	Non-analytical studies (for example case reports, case series)
4	Expert opinion, formal consensus

Levels of Evidence for Studies of the Accuracy of Diagnostic Tests

Ia	Systematic review (with homogeneity)[a] of level-1 studies[b]
Ib	Level-1 studies[b]

II	Level-2 studies[c]; systematic reviews of level-2 studies
III	Level-3 studies[d]; systematic reviews of level-3 studies
IV	Consensus, expert committee reports or opinions and/or clinical experience without explicit critical appraisal; or based on physiology, bench research or 'first principles'

[a] Homogeneity means there are minor or no variations in the directions and degrees of results between individual studies that are included in the systematic review.

[b] Level-1 studies are studies that use a blind comparison of the test with a validated reference standard ('gold' standard) in a sample of patients that reflects the population to whom the test would apply.

[c] Level-2 studies are studies that have only one of the following:

- Narrow population (the sample does not reflect the population to whom the test would apply)
- Use a poor reference standard (defined as that where the 'test' is included in the 'reference', or where the 'testing' affects the 'reference')
- The comparison between the test and reference standard is not blind
- Case-control studies

[d] Level-3 studies are studies that have at least two or three of the features listed above.

Classification (Grading) of Recommendations for Intervention Studies

Grade	Evidence
A	• At least one meta-analysis, systematic review or randomised controlled trial (RCT) that is rated as 1++, and is directly applicable to the target population, or • A systematic review of RCTs or a body of evidence that consists principally of studies rated as 1+, is directly applicable to the target population and demonstrates overall consistency of results, or • Evidence drawn from a National Institute for Health and Clinical Excellence (NICE) technology appraisal
B	• A body of evidence that includes studies rated as 2++, is directly applicable to the target population and demonstrates overall consistency of results, or • Extrapolated evidence from studies rated as

	1++ or 1+
C	• A body of evidence that includes studies rated as 2+, is directly applicable to the target population and demonstrates overall consistency of results, or • Extrapolated evidence from studies rated as 2++
D	• Evidence level 3 or 4, or • Extrapolated evidence from studies rated as 2+, or • Formal consensus
D (GPP)	• A good practice point (GPP) is a recommendation for best practice based on the experience of the Guideline Development Group.

Classification (Grading) of Recommendations for Studies of the Accuracy of Diagnostic Tests

Grade	Level of Evidence
A (DS)	Studies with level of evidence Ia or Ib
B (DS)	Studies with level of evidence of II
C (DS)	Studies with level of evidence of III
D (DS)	Studies with level of evidence of IV

DS, diagnostic study

SOGC (2006)

Quality of Evidence Assessment*

I: Evidence obtained from at least one properly designed randomized controlled trial.

II-1: Evidence obtained from well-designed controlled trials without randomization.

II-2: Evidence obtained from well-designed cohort (prospective or retrospective) or case-control studies, preferably from more than one center or research group.

II-3: Evidence obtained from comparisons between times or

	places with or without the intervention. Dramatic results from uncontrolled experiments (such as the results of treatment with penicillin in the 1940s) could also be included in this category. **III**: Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees. **Classification of Recommendations**** A. There is good evidence to recommend the clinical preventive action. B. There is fair evidence to recommend the clinical preventive action. C. The existing evidence is conflicting and does not allow to make a recommendation for or against use of the clinical preventive action; however, other factors may influence decision-making. D. There is fair evidence to recommend against the clinical preventive action. E. There is good evidence to recommend against the clinical preventive action. I. There is insufficient evidence (in quantity or quality) to make a recommendation; however, other factors may influence decision-making. *The quality of evidence reported in these guidelines has been adapted from the Evaluation of Evidence criteria described in the Canadian Task Force on the Periodic Preventive Health Exam Care. **Recommendations included in these guidelines have been adapted from the Classification of Recommendations criteria described in the Canadian Task Force on the Periodic Preventive Health Exam Care.

COMPARISON OF METHODOLOGY ***Click on the links below for details of guideline development methodology***		
HIGN **(2008)**	**NCCWCH/NICE** **(2006)**	**SOGC** **(2006)**
To collect and select the evidence, all three groups performed searches of		

electronic databases. HIGN and NCCWCH/NICE also performed hand searches of published literature (both primary and secondary sources). To assess the quality and strength of the selected evidence, all three groups weighted it according to a rating scheme and provide the scheme. Methods used to analyze the evidence differ. HIGN and SOGC performed a systematic review; neither group provides a description of the process. NCCWCH/NICE performed a meta-analysis, a systematic review with evidence tables, and a review of published meta-analyses. They describe the processes used.

All three groups employed expert consensus to formulate the recommendations, but only NCCWCH/NICE provides a description of the formulation process, specifying that both a modified Delphi technique and a nominal group technique were used. NCCWCH/NICE and SOGC rate the strength of the recommendations according to a scheme and provide the scheme. With regard to cost-effectiveness issues, the NCCWCH/NICE health economist helped the guideline development group (GDG) by identifying topics within the guideline that might benefit from economic analysis, reviewing the available economic evidence and, where necessary, conducting economic analysis. Reviews of published health economic evidence are presented alongside the reviews of clinical evidence, and modelling is presented in appendices D-G in the original guideline document, with cross references from the relevant chapters. HIGN and SOGC did not perform a formal cost analysis nor review published cost analyses. All three groups subjected the guidelines to internal peer review; HIGN and NCCWCH/NICE also sought external peer review.

SOURCE(S) OF FUNDING Abbreviations Back to TOC	
HIGN (2008)	Supported by a grant from The John A. Hartford Foundation
NCCWCH/NICE (2006)	National Institute for Health and Clinical Excellence (NICE)
SOGC (2006)	Society of Obstetricians and Gynaecologists of Canada (SOGC)

BENEFITS AND HARMS Abbreviations Back to TOC
Benefits

HIGN (2008)	**Patient** • Fewer or no episodes of urinary incontinence (UI) or complications associated with UI **Nurse** • Documentation of assessment of continence status at admission and throughout hospital stay. If UI is identified, documentation and determination of type of UI • Use of interdisciplinary expertise and interventions to assess and manage UI during hospitalizations • Inclusion of UI in discharge planning needs and referral as needed **Institution** • Decreased incidence and prevalence of transient UI • Hospital policies that require assessment and documentation of continence status • Improved administrative support and ongoing education regarding assessment and management of UI for staff
NCCWCH/NICE (2006)	Accurate diagnosis and appropriate management of patients with UI and overactive bladder, prevention of complications of surgical procedures for UI, and improved quality of life
SOGC (2006)	Conservative management is associated with minimal adverse outcomes, and for a significant number of patients, the results are satisfactory and may obviate the need for medical or surgical interventions.
Harms	
HIGN (2008)	Indwelling urinary catheters are associated with the risk of UTI.
NCCWCH/NICE (2006)	• Adverse effects of antimuscarinic drugs and catheterisation • Surgical complications
SOGC (2006)	Not stated

Abbreviations
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BMI, body mass index

DO, detrusor overactivity

FES, functional electrical stimulation

HIGN, Hartford Institute for Geriatric Nursing

NCCWCH, National Collaborating Center for Women's and Children's Health

NICE, National Institute for Health and Clinical Excellence

OAB, overactive bladder

PFME, pelvic floor muscle exercises

PFMT, pelvic floor muscle training

PVR, post void residual volume

SOGC, Society of Obstetricians and Gynaecologists of Canada

UI, urinary incontinence

UTI, urinary tract infection

This synthesis was prepared by ECRI Institute on June 20, 2006. The information was verified by John A. Hartford Institute of Geriatric Nursing on July 27, 2006. The information was updated on October 26, 2007 to remove BWH recommendations. This synthesis was revised in December 2008 to update HIGN recommendations. This synthesis was revised in January 2009 to remove FMSD recommendations, and again in January 2010 to remove ACOG recommendations and add NCCWCH/NICE and SOGC recommendations. The information was verified by SOGC on February 22, 2010.

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